

Abstract

As yet heads of belted passengers, when thrown forwards in real-world front collisions, crush into vehicle members or inflating airbags.

- 5 A safety device is equipped with wires, energy-absorbing, vibration-dampening delimiters, a collapsible upper portion of steering column and a pair of independently operating piston devices. The deflection of at least one piston rod in any front or rear collision is exploited to pre-tension the seat belts up to a predetermined length of seat-belt retraction and retract that collapsible upper portion with the steering wheel out of the head-injury area.
- 10 In order to prevent buckling of longitudinal runners, achieve the highest efficiency of energy-absorption and lower impact energy, to which passengers are exposed, a cone-shaped hub reams, folds and buckles the respective longitudinal runner, loosely guided by the piston rod, guided by a bearing box.

The delimiters block further movement of seat-belt wire thus preventing strangulation.

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OTHER PUBLICATIONS

Publication of GDV: Order Nr. 9609 "Neck Injuries in Car Accidents...";

Auto Motor und Sport 12/96 and 14/96

Wiesbadener Kurier of 07/14/95, 10/01/94 and 11/29/97

5 Frankfurter Rundschau and Wiesbadener Kurier of 10/11/96

Stiftung Warentest 4/95 and Spiegel 13/95, 29/96

Police reports concerning head injuries in real-world front collisions

Despite R&D work over three decades airbags are still unreliable, thus necessitating recall actions such as of 6,370 SAAB 9000s, 235,000 Volvo S70s, C70s and C70s, 150,000 MBs

10 (FAZ of 07/14/01), 616,000 Opel, 16,500 VWs (ADAC 2/99), 21,000 VWs (AMS 3/99), 280,000 BMW 3s, 900,000 AUDI 80s, A4s, A6s (FAZ of 10/13/97) and A8s, 5,400 Porsche 911 Carreras and 911 Turbos (FR of 06/12/99) and, recently, 116,000 Volvo S80s,